

ABSTRACT

A magnetic field sensor including an amplifier and a magnetic field element for outputting a signal to a switch circuit according to the strength of an applied magnetic field. The switch circuit outputs a signal selected by an external two-phase signal to an amplifier that amplifies the signal and outputs a resulting voltage to a first end of a memory element. A switch, having one end connected to a second end of the memory element, is controlled by the two-phase signal. The switch closes in a first phase of the two-phase signal causing the memory element to store the output voltage of the amplifier, and opens in a second phase causing a vector sum of the output voltage the amplifier to be stored in the memory element and providing the output voltage to a signal output terminal connected to the second end of the memory element.